

QUALITY COMPARISON OF DRAFT-MOTIVATED NAVY
ENLISTEES WITH ALL-VOLUNTEER FORCE ENLISTEES

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THESIS

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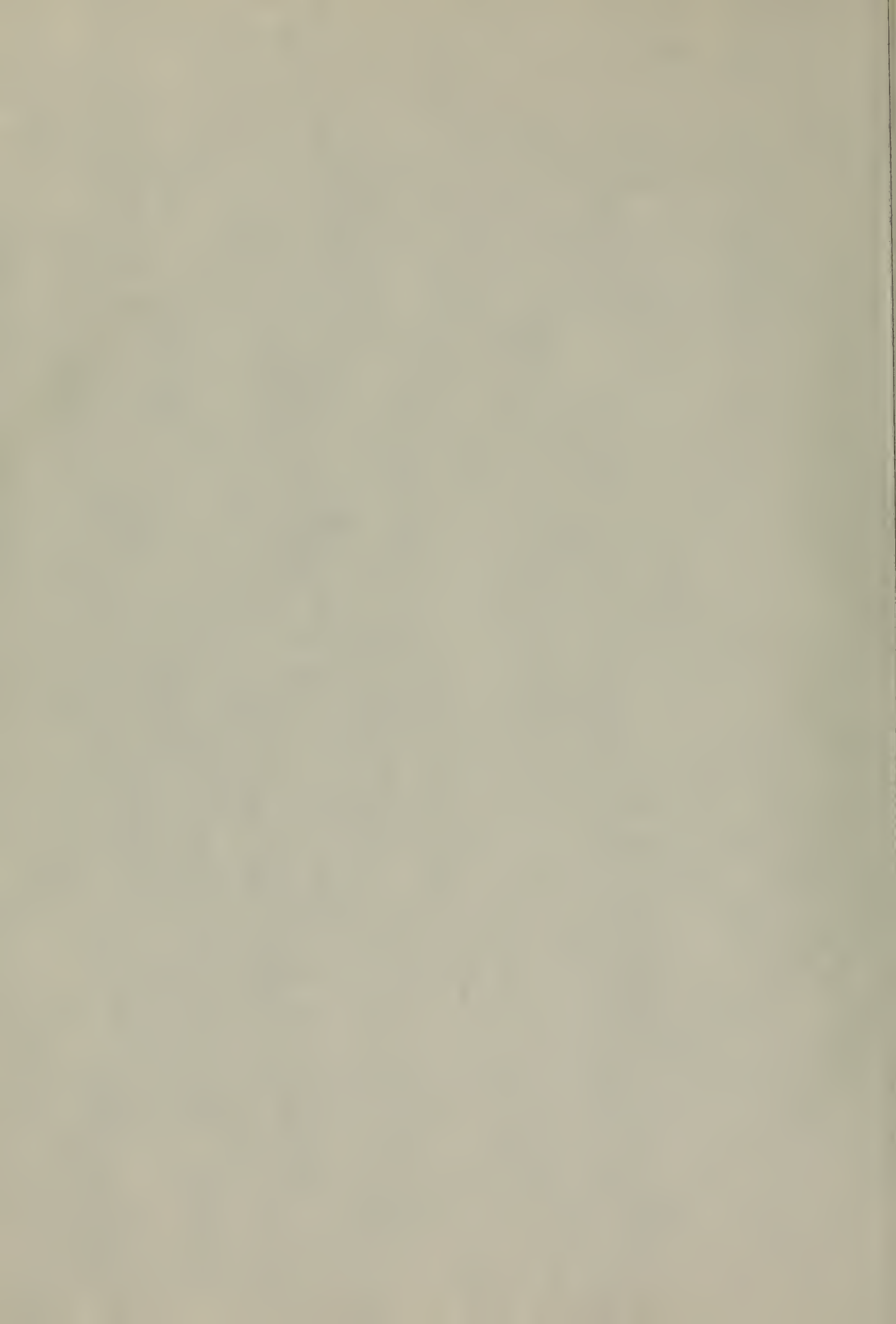
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Quality Comparison of Draft-Motivated Navy Enlistees
With All-Volunteer Force Enlistees

by

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Lieutenant, United States Navy
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ABSTRACT

Since World War II, the Navy has relied upon volunteer enlistments to maintain its force structure. However, it is recognized that many men were motivated to enlist by the prospect of being drafted into the Army. Now that the All-Volunteer Force policy is in effect for all services, there is speculation that the quality of new Naval recruits will diminish. This paper makes a quality comparison of enlistees under the Draft Lottery system and enlistees under the All-Volunteer Force policy from data obtained in the Monterey Peninsula, California area of the Eighth Naval Recruiting District. The results indicate that no significant change in quality has occurred during the first four months of the All-Volunteer policy. The implications are that 1) no reduction in the quality of new enlistees is a good indication that the Navy is maintaining a quality status quo, and 2) no increasing trend in quality might reflect the effectiveness of the Navy's program to enlist the highest caliber of recruit needed to form a future smaller, but more professional, naval force.

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I. INTRODUCTION

The major objective of this study is the comparison, in quality, of Naval enlistees under the draft lottery and draft-free environments based on recruiting data obtained in the Monterey Peninsula, California area of the Eighth Naval Recruiting District.

This study was motivated by the author's interest in the projection (Objection 8, Gates 1970) that a degradation in enlistee quality would occur under an All-Volunteer Force policy. In a time of changing quality requirements (Discussed in Part I of this thesis), this author hoped that changes in enlistee quality could be detected, if such changes are occurring.

Although other studies of enlistee quality have developed concerns over the recruiting of quality enlistees under the All-Volunteer Force policy, these studies have had to identify the "true volunteer" under the draft system in order to make comparisons between volunteers and draftees. This study may be the first using "actual volunteer" data.

Previous studies, for example Valentine and Vitola (1970), found that the mean AFQT (68.66) of a draft-motivated enlistee was 13.16 above that of a "true volunteer" enlistee. This mean difference yielded a significant statistic of 6.58. This difference is discouraging when one considers the percentages of men in Mental Ability categories I & II serving in the Navy's most technical ratings. Reaume and Oi (1970) found that 81.6% in the Electronics Repair ratings, and 69.5% in Communications Intelligence ratings were in Mental Ability categories I & II as of 31 March 1969. Replacement of these technical people in the future may also be difficult. A study by Lockman, Stoloff, and

Allbritton (1972) showed that although volunteers are more career motivated than draft-motivated enlistees, enlistees with career intentions have lower entrance educational levels. They found that the mean formal entry education of a first term rated man was 12.4 years as compared with the 11.2 years of a second term man, and 10.8 years of a third term man with less than sixteen years of active duty.

Minimum Mental Standards for enlistment have increased from the 1951 minimum AFQT score of 10, through the 1967 standards of High School graduate (AFQT 16-30) and non-High School graduate (AFQT 16-30) plus minimum multiple-cut off scores in other Battery exams (Sullivan 1970). Finally in July 1973 it was stipulated that 90% of all assessments must be school (Class 'A') eligible with the exception that all minority non-school eligible enlistments must be approved by higher authority, and in addition, all non-High School graduates must have a confirmed Odds for Effectiveness (OFE) score of 72 or greater (NRDSFRANNOTE 1130 JUN 73). If the required quantity of volunteer assessments can be fulfilled using these criteria, one would expect to see an increasing mean entry mental qualification score.

It was shown by Sullivan (1970) that the New Standards (Project 100,000, Category IV) enlistees to March 1969 had not demonstrated the advancement potential needed to meet leadership replacement requirements. After 19-21 months total service time, the New Standards personnel were distributed in the following pay grades: E-1 (.8%), E-2 (32.5%), E-3 (65.8%), E-4 (.9%), and E-5 (0%). In comparison with the Control Group (Categories I, II, III) personnel distribution of: E-1 (0%), E-2 (2.4%), E-3 (50.1%), E-4 (45.9%), and E-5 (1.6%), there is a considerable difference, particularly in the E-2 and E-4 levels. This might indicate that entry standards will have to remain above the Mental Ability IV level,

under the All-Volunteer policy, in order to obtain the quality of man needed in future leadership assignments.

Because all of the studies available dealt with the quality of enlistees prior to the commencement of the no-draft environment, the author of this thesis decided to gather what data he could in order to examine the impact of the no-draft policy on the quality of the recruits coming into the U.S. Navy. The author realizes full well that the data he presents here do not provide an adequate treatment of all the pertinent issues; however, they do represent what may be the first attempt to address the question of what is happening to recruit quality under the All-Volunteer Force environment.

This thesis is organized into four parts. In Part I, the quality requirements of today's modern Navy through a brief discussion of the evolution of historical and technological change is developed. Part II contains the data and the statistical analysis to examine enlistee quality under the draft lottery system and under the current All-Volunteer Force policy. Test data are enlistees' General Classification Test, Arithmetic Test, and Mechanical Test scores combined into a GAM score made in the periods January through April of 1971, 1972, and 1973. In Part III, the results and the implications of the study are discussed. Part IV, the conclusion, contains a summation of the study, several related comments, and some implications for the Navy.

The technique used in this study compared the mean GAM scores of enlistees' during the two periods (draft and non-draft). The availability of only GAM scores renders this a basic preliminary survey. However, because of the newness of the All-Volunteer Force policy, other types of data by which comparisons could be made were not available. Unfortunately, it was also necessary to assume that all of the enlistees

of the 1971 and 1972 time span were draft-motivated, although other studies (Rhode 1972 and Lockman 1972) found that approximately fifty-five percent and sixty three percent, respectively, of the Navy enlistees were "true volunteers".

II. THE EVOLUTION OF QUALITY STANDARDS FOR NAVAL ENLISTMENTS

It would be wrong to assume that the Navy of yesteryear was looking for men of lesser quality than that of the Navy of 1973. However, the able body seaman of the 1800's, requiring only physical stamina and mental character to adapt to rigid disciplinary control, was recruited under standards much different than those necessary today.

This country, still young in its development of uniform standards of educational requirements and opportunities in the 1800's, was characterized by people of heterogeneous ethnic and national backgrounds who had recently immigrated to the United States. As a result, the enlistees from this population often resulted in ships' crews consisting of men speaking only their old-country language, such as French, German, Spanish, Italian, and even occasionally Chinese. (Roloff 1956)

As late as 1922, physical standards were being used as a primary means of controlling the number of enlistments. Physical standards were raised that year to prevent the young men who were substandard physically from joining the Navy. Two years before, when quotas were not being filled, physical requirements had been considerably lowered. (Roloff 1956)

The period between World War I and World War II was characterized by a definite increase in educational quality standards for prospective Navy enlistees. By 1929 the mental caliber of recruits reached its highest level up to that time. The average recruit had nine years and four months of schooling to his credit. (Roloff 1956)

The onslaught of the depression in the 1930's boosted reenlistment

rates to over eighty-five percent and first enlistment opportunities dropped drastically to a low of one in thirty applicants being accepted. The recruiter's situation was one of having stringent and high standards; selectivity was easy because the supply of recruits exceeded the Navy's needs. The results of this selectivity were reflected in the recognized excellence of the enlisted forces in the years immediately preceding World War II. Of course the Navy's manpower needs changed after December 7, 1941, and during the following four years over three and one-half million men and nearly one hundred thousand women were enlisted to meet the demands of World War II. (Roloff 1956)

World War II taught the lesson that the Navy must recognize skill specialization as a prominent factor in its existence and its success. By 1950 the enlisted rating structure was established essentially the way it remains today, and the personnel selection program based on aptitude and knowledge tests was developed. From these tests, the Applicant Qualification Test (AQT) and Navy Basic Test Battery which consists of the General Classification Test (GCT), Arithmetic Test (ARI), Clerical Aptitude Test (CLER), and Mechanical Test (MECH), Navy Standard Scores were established and an appropriate single score or a combination of scores was devised for minimum acceptable requirements for entry into the Navy, and its various job-related schools. And, as is the case today, each individual applicant was personally interviewed and the interviewer's recommendation accompanied and influenced the final selections (NAVPERS 10827 JAN 1949).

The rapid acceleration of warfare technology during the war, and the postwar developments of refined radar and fire-control systems, nuclear propulsion and nuclear ordnance, and the ever increasing complexity of computerized missile and antimissile systems, quite naturally demand a

higher trained and more trainable enlistee. The electronics/technical field of ratings within the Navy comprised 18.6 percent of all ratings in 1945, 30 percent in 1969, and is projected at 37 percent in 1974. (Sullivan 1970). In addition to this, Sullivan (1970) stresses three other reasons for maintaining high enlistment standards. The first of these, cheaper training, reflects the contention that higher quality recruits learn faster and experience lower attrition rates in formal schooling, and even if low-quality recruits are capable of assimilating technical knowledge, the costs of training them is higher. The tradeoff here, of course, is that it is harder and more expensive to procure only high-quality recruits. The next point, fewer disciplinary problems, also represents an economic challenge. Recruits with lower mental capabilities are more likely to be involved in serious disciplinary problems resulting in an increase cost of the associated legal, control, and administrative functions. Staffing non-commissioned officer billets, the last item, is a problem of having enough quality replacements to move up through rates. Lower quality recruits are less likely to be eligible for reenlistment or promotion.

The latest figures representing the current trend in Naval Recruiting are reflected in the following three quotations from the Navy Recruiting SITREP of 15 July 1973 which was published by the United States Navy Recruiting Command:

"A major problem area in enlisted recruiting programs for FY-74 will be six year programs - Nuclear Field (attained 5,172 or 99.9% of FY-73 goal), and Advanced Electronics Field (attained 3,415 or 75.3% of FY-73 goal)."

"A comparison of recruiting statistics for all services during Fiscal Year 1973 (1 July 1972 - 30 June 1973), shows that despite massive effort by all hands, Navy finished fourth in percentage attainment of goals:

| | GOAL | ATTAINMENT | % OF GOAL | MG IV | HS GRAD |
|-----------|--------|------------|-----------|-------|---------|
| Navy (USN | 99.870 | 91,690 | 91.8% | 15.6% | 69.2% |

"In June, for the third consecutive month, Navy and Naval Reserve recruiting goals were missed. Despite the highest June accession goal in eighteen years, the seriousness of the shortfall is shown below."

| | <u>GOAL</u> | <u>ATTAINMENT</u> | <u>% OF GOAL</u> |
|------|-------------|-------------------|------------------|
| USN | 14200 | 8387 | 59.1% |
| USNR | 1579 | 769 | 48.7% |

It should be noted that the first two statements cover the entire Fiscal Year 1973 which contains the time span of concern in this study.

III. PRESENTATION OF DATA

Because the use of the Armed Forces Qualification Test (AFQT) was discontinued on 1 January 1973 (NRDSFRANNOTE 1130, 26 DEC 72), the GCT, ARI, and MECH scores were combined (G+A+M) to form the GAM score used as the measure of enlistee quality. In addition, paragraph 4 of the above referenced Notice directed the use of the Conversion Table at Mental Group Levels (Appendix B) and the GAM/AFQT relationships (Appendix A) to determine future placement of potential enlistees in a Mental Ability category.

The sample of scores obtained for the comparison consists of the entire record of actual first term Regular Navy enlistees from the Monterey, Salinas, and Gilroy, California Naval Recruiting Stations. The data collected were for the periods January through April of the years 1971, 1972, and 1973. These time frames were selected because they represented the effective beginning of the All-Volunteer Force policy in 1973, and the corresponding periods of the previous two years when the draft lottery system was still in effect. Lack of documentation of each subject's reason for desiring to enlist force the assumption that all enlistees of 1972 and 1971 were draft-motivated. This assumption, as previously noted, may be in error (in frequency terms) by as much as fifty percent. Sufficient personal data (birth dates) were not available to allow draft lottery information to be used to determine draft motivation. (Lower draft lottery numbers would be inferred as meaning high draft motivation). Overall, however, the aforementioned assumption is rather unimportant for this thesis, as this thesis is primarily directed at comparing enlistees procured since the All-Volunteer Force environment

began with enlistees obtained during the draft environment. The extent to which the draft era data were influenced by the scores of "true volunteers" is of course interesting, but it is not crucial to this thesis.

Comparisons between the two groups' test performance were made through the t statistic analysis utilizing the null hypothesis that the mean GAM scores for the two periods (January- April 1973 for the All-Volunteer Force and January-April 1971 & 1972 for the Draft Lottery System) were equal.

For further analysis and comparison, the data were divided by Mental Ability Category for the two periods (Table III), and further divided by Mental Ability Category (Table IV) for each respective recruiting station. These analyses were made in an attempt to detect any pattern which would indicate a particular area as a source of one caliber (mental group) of recruit. In addition, the total number of examinations administered in the corresponding time frames were tabulated as an indication of the recruit supply curve for the two periods.

A final data sample was obtained from the Eighth Recruiting District Headquarters in San Francisco. This sample consisted of scores made from January - April 1973 by thirty randomly selected candidates for the Advanced Electronics Field (AEF)/Nuclear Field (NF) programs. These means are presented in Table II. The purpose of this sample was to determine the caliber of individuals presently being considered for these highly technical fields.

IV. RESULTS

Table I summarizes the performance of the two groups on the combined GAM tests. It is again noted that the draft-motivated group scores are tainted with some percentage of "true volunteer" input (presumably with GAM capability than draft-motivated enlistees of the same group (Rhode 1970). The influence this has had on the data is indeterminable.

Table I. Mean Scores on Combined GAM by Self-Motivated and Draft-Motivated Enlistee Groups

| Recruiting Station | Draft Lottery Group (N=125) | | All-Volunteer Group (N=37) | | Mean Diff* | t Statistic |
|--------------------|-----------------------------|------|----------------------------|------|------------|-------------|
| | Mean | SD | Mean | SD | | |
| Monterey | 169.02 | 18.0 | 161.33 | 13.8 | -7.69 | 1.34 |
| Salinas | 158.02 | 17.9 | 161.17 | 15.5 | +3.15 | .568 |
| Gilroy | 159.60 | 17.1 | 161.46 | 14.2 | +1.86 | .327 |
| All Stations | 162.83 | 16.4 | 161.32 | 13.9 | -1.51 | .487 |

*Mean Difference = All-Volunteer Mean - Draft Lottery Group Mean

The test statistics definitely indicated no statistically significant change in recruit quality level. Thus, one cannot reject the null hypothesis that the two sets of recruits came from populations having the same mean.

Table II shows the mean score comparison of the Draft Lottery, All-Volunteer, and the sample AEF/NF groups.

Table II. Mean Scores on Combined GAM by Self-Motivated, Draft-Motivated, and AEF/NF Enlistee Groups

| Draft Lottery Group (N=125) | | All-Volunteer Group (N=37) | | AEF/NF (N=30) | | Mean Diff* | t Statistic |
|-----------------------------|------|----------------------------|------|---------------|------|------------|-------------|
| Mean | SD | Mean | SD | Mean | SD | | |
| 162.83 | 16.4 | | | 179.6 | 12.0 | -16.77 | 5.36 |
| | | 161.32 | 13.9 | 179.6 | 12.0 | -18.28 | 5.70 |

*Mean Difference = AEF/NF Group - Draft Lottery or All-Volunteer Group Mean

It is readily apparent from the test statistics in Table II that the mean of the scores obtained by the AEF/NF enlistees is significantly higher than those presented in Table I. This is what the Navy would want; the data in Table II are presented to illustrate the magnitude of difference between the highly sought after technical field recruit and the average recruit. True, the Navy does not need all technical field people, but the mean score of recruits into the Navy should have an upward trend and not decrease or remain stable if the Navy is attempting to obtain a greater percentage of higher quality recruits.

Tables III and IV depict the breakdown, by Mental Ability Category, of the two groups combined and by recruiting station, respectively.

Table III. Combined Percentage/Numerical Distribution of Self-Motivated and Draft-Motivated Enlistee Groups by Mental Ability Category

| Mental Ability Category | Draft-Mot Group (N=125) | | Self-Mot Group (N=37) | | National Mean Percentage for All Enlistees** |
|----------------------------|----------------------------|------|--------------------------|------|--|
| | N | % | N | % | |
| I | 9 | 7.2 | 1 | 2.7 | 7 |
| II | 52 | 41.6 | 16 | 43.2 | 24 |
| IIIa | 38 | 30.4 | 13 | 35.2 | 38(IIIa & b) |
| IIIb | 20 | 16.0 | 7 | 18.9 | |
| IV | 6 | 4.8 | 0 | 0 | 24 |
| V | 0 | 0 | 0 | 0 | 7 |
| Total | 125 | 100 | 37 | 100 | 100 |

*Cat V not eligible for enlistment

**NAVPERS 15812B dtd OCT 1970

The percentage data in Table III shows no major difference between the draft and non-draft (self-motivated) enlistees. Furthermore, a Chi-Square test statistic of 3.31 (df=4, Cat. V not included) indicates no significant dependence between the data groups and the Mental Ability

categories. When compared with the 77.1% of "true volunteers" in the I, II, IIIa categories for the period JAN-OCT 1970 (Rhode 1972), the Chi-Square test further substantiates the probable bias of "true volunteers" in the Draft-Motivated data. In addition, the data do indicate that the entire Monterey Peninsula area is an above average source of category II and III personnel.

Table IV. Recruiting Station Numerical Distribution of Self-Motivated and Draft-Motivated Enlistee Groups by Mental Ability Category

| Mental Ability Category | (Monterey) | | | (Salinas) | | | (Gilroy) | | |
|----------------------------|------------|-----|---------|-----------|-----|---------|----------|-----|---------|
| | Draft- | | Self- | Draft- | | Self- | Draft- | | Self- |
| | Mot Grp | | Mot Grp | Mot Grp | | Mot Grp | Mot Grp | | Mot Grp |
| | '71 | '72 | '73 | '71 | '72 | '73 | '71 | '72 | '73 |
| I | 2 | 0 | 0 | 3 | 2 | 0 | * | 1 | 1 |
| II | 8 | 13 | 7 | 11 | 12 | 5 | * | 7 | 4 |
| IIIa | 5 | 3 | 2 | 14 | 8 | 4 | * | 8 | 7 |
| IIIb | 2 | 1 | 3 | 7 | 8 | 3 | * | 2 | 1 |
| IV | 0 | 2 | 0 | 2 | 0 | 0 | * | 2 | 0 |
| V** | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 |
| Total | 17 | 19 | 12 | 37 | 30 | 12 | * | 20 | 13 |

*Station not open at this time

**Category V Personnel are not eligible to enlist

The distributions by Mental Ability category, as shown in Table IV, basically remain proportionately equal for each recruiting area. The major difference is in the reduction in total numbers of enlistees in 1973 for all groups and locations. The combined tabulation of enlistments at these recruiting stations is shown in Table VI.

Table V. Total Examinations Administered (JAN - APR)

| Recruit Station | 1971 | 1972 | 1973 |
|-----------------|------|------|------|
| Monterey | 32 | 26 | 31 |
| Salinas | 97 | 51 | 45 |
| Gilroy | * | 18 | 23 |
| Total | 129 | 95 | 99 |

*Station not open at this time

Table V shows the total examinations administered by each recruiting station during the evaluation period. These data do not correspond with the actual enlistees (Table VI) of the same period used in the preceding analysis. However, since each subject who approaches a naval recruiter as a potential enlistee is examined, this serves as an indication of the potential recruit supply over the three periods.

Table VI. Total Regular Enlistees (JAN - APR)

| Recruit Station | 1971 | 1972 | 1973 |
|-----------------|------|------|------|
| Monterey | 18 | 19 | 15 |
| Salinas | 52 | 37 | 12 |
| Gilroy | * | 20 | 13 |
| Total | 70 | 76 | 40 |

*Station not open at this time

It can be seen that the supply of applicants in the areas studied has dropped to some extent, but not as much as the enlistee total has dropped (Table VI), in percentage terms. The drop in the number of enlistees for 1973 (Table VI) may be best accounted for by current recruiting quota restrictions and by high standards limitations. These points will be discussed more in the final section.

V. DISCUSSION AND CONCLUSIONS

The purpose of this study was to compare self-motivated and draft-motivated recruits in an effort to detect any early trend in recruit quality under the All-Volunteer Force policy. Objection 8, of The Report of the Presidents Commission on an All-Volunteer Armed Force (Gates 1970), projected that:

A voluntary force will be less effective because not enough highly qualified youths will likely to enlist and pursue military careers. As the quality of servicemen declines, the prestige and dignity of the services will also decline and further intensify recruiting problems.

The rebuttal to this objection countered with:

The Commission has been impressed by the number and quality of the individuals who, despite conscription, now choose a career in the military.

...The Commission recognizes the importance of recruiting and retaining qualified individuals. It has recommended improved basic compensation and conditions of service, proficiency pay and accelerated promotions for the highly skilled to make military career opportunities more attractive. These improvements, combined with an intensive recruiting effort, should enable the military not only to maintain a high quality force but also to have one that is more experienced, better motivated, and has higher morale.

This study has not found contrary evidence to this rebuttal. However, the recruiting policies of 1973 have been geared to a force-reduction policy following the United States withdrawal from Vietnam and consequently recruiters have had the privilege of selection to meet minimum, and often maximum, quota limitations. This situation may have forced the average scores for 1973 to a level higher than will be seen in the future. Then, too, the short time span since the initiation of the All-Volunteer Force policy is most likely insufficient to be indicative of the situation once the system has begun to stabilize.

The contrast in recruit quota limitations for the Draft Lottery and All-Volunteer periods can be seen by the comparison of two Recruiting District Enlisted Goal Allocations letters. The first, Navy Recruiting District San Francisco Notice 1130 dated 4 August 1972, reflects the typical quota system in effect throughout the pre-All-Volunteer Force policy period. Enclosure (1) to this notice lists the First Term Enlistee quota for the Southern Zone, which contains Monterey, Salinas, and Gilroy, as 149 for the month of August 1973. This number was determined by a nearly linear assignment of seven new recruits for each recruiter throughout the zone. The quota, for the four recruiters assigned to the Monterey, Salinas, and Gilroy stations, was set at thirty new enlistees. No other special quality restrictions were given. In comparison, a similar notice dated 29 March 1973 was issued to delineate the requirements for April 1973. Paragraph 8, of that notice states:

"All first enlistments must be school eligible and no Mental Group IV applicants will be enlisted; this includes all USN and USNR recruits and all minority categories. It is also desired that the number of high school graduates be maximized. For clarification; to be considered school eligible, A G+A=100, or G+A+M=151 is required. However, if a man has test scores that qualify him for a school, he may be enlisted in that school."

In addition, the numerical limitations for the Southern Zone were set at thirty (minimum and maximum) for First Term Enlistees, and at four each for the AEF and NF programs (minimum). These zone figures were assigned based on past performance records by area, population distribution, and personal recruiter strength assessments as evaluated by the Headquarters staff personnel. Records of the specific rationale of each assignment decision were not maintained.

Most Naval training and education programs strive to develop the individual to a point where he will fit into the Navy's personnel pattern with maximum effectiveness. To do this, the input selection process based

on past experience is used. This selection process preliminary excludes those individuals whose educational and behaviorial background indicate a reasonable probability of failure (See Odds for Effectiveness Table for use with Navy Applicants for Enlistment, Appendix C). Even when the standards are reduced, as was the case during Project 100,000 initiated in October 1966, the resulting distribution of the lesser-qualified enlistees (Cory 1971) showed that the Category IV men generally fit into thirty-five ratings, all of which are outside the technical priority ratings, and the retention rate for these men was substantially lower than those for the other three mental groups.

In the late 1940's when the Recruit Training Command output distribution showed only twenty percent of its graduates as direct input to Class "A" schools and fifty percent going to direct in-service fleet training (NAVPERS 10827 JAN 1949), a selection system could be more tolerant of reduced standards. Today's quality standards for a smaller more professional and specialized Navy are demanding that all enlistees are Class "A" school qualified, and to the maximum extent possible all enlistees are expected to be high school graduates. This is a luxury of a system blessed with a high quality volunteer applicant supply curve.

"All available data suggest that the number of enlistees in AFQT categories I, II, IIIa represents the true supply of these kinds of enlistees, i.e., the Navy does not currently (1970) reject significant numbers of physically fit applicants of this mental caliber." (Rhode 1972)

If the category IIIb and IV personnel are to be the mainstay of future recruiting potential under the All-Volunteer Force policy, future revisions to minimum aptitude requirements for some technical schools and modifications in training programs to accommodate lower aptitude personnel are going to be in order.

APPENDIX A

GAM AND AFQT CORRELATION TABLE*

| <u>GAM</u> | <u>AFQT</u> | <u>GAM</u> | <u>AFQT</u> | <u>GAM</u> | <u>AFQT</u> |
|------------|-------------|------------|-------------|------------|-------------|
| 208 | 99 | 164 | 66 | 120 | 17 |
| 207 | 98 | 163 | 65 | 119 | 16 |
| 206 | 97 | 162 | 64 | 118 | 15 |
| 205 | 97 | 161 | 62 | 117 | 15 |
| 204 | 96 | 160 | 61 | 116 | 14 |
| 203 | 95 | 159 | 59 | 115 | 14 |
| 202 | 95 | 158 | 58 | 114 | 13 |
| 201 | 95 | 157 | 57 | 113 | 13 |
| 200 | 94 | 156 | 56 | 112 | 12 |
| 199 | 94 | 155 | 54 | 111 | 12 |
| 198 | 94 | 154 | 53 | 110 | 11 |
| 197 | 93 | 153 | 52 | 109 | 11 |
| 196 | 93 | 152 | 50 | 108 | 11 |
| 195 | 93 | 151 | 49 | 107 | 10 |
| 194 | 92 | 150 | 48 | 106 | 10 |
| 193 | 92 | 149 | 47 | 105 | 9 |
| 192 | 92 | 148 | 45 | 104 | 9 |
| 191 | 91 | 147 | 44 | 103 | 8 |
| 190 | 91 | 146 | 42 | 102 | 7 |
| 189 | 90 | 145 | 41 | 101 | 5 |
| 188 | 90 | 144 | 40 | 100 | 4 |
| 187 | 89 | 143 | 39 | 99 | 3 |
| 186 | 89 | 142 | 38 | 98 | 2 |
| 185 | 88 | 141 | 37 | 97 | 1 |
| 184 | 88 | 140 | 36 | 96 | 0 |
| 183 | 87 | 139 | 35 | 95 | 00 |
| 182 | 87 | 138 | 34 | | |
| 181 | 85 | 137 | 33 | | |
| 180 | 85 | 136 | 32 | | |
| 179 | 84 | 135 | 31 | | |
| 178 | 84 | 134 | 30 | | |
| 177 | 83 | 133 | 28 | | |
| 176 | 82 | 132 | 27 | | |
| 175 | 81 | 131 | 26 | | |
| 174 | 80 | 130 | 25 | | |
| 173 | 79 | 129 | 24 | | |
| 172 | 78 | 128 | 23 | | |
| 171 | 77 | 127 | 22 | | |
| 170 | 75 | 126 | 22 | | |
| 169 | 74 | 125 | 21 | | |
| 168 | 73 | 124 | 20 | | |
| 167 | 71 | 123 | 19 | | |
| 166 | 70 | 122 | 18 | | |
| 165 | 68 | 121 | 17 | | |

*Naval Recruiting District, San Francisco Notice 1130 of 26 December 1972

GAM = GCT+ARI+MECH
AFQT = ARMED FORCES QUALIFICATION TEST

APPENDIX B

CONVERSION TABLE AT
MENTAL GROUP LEVELS*

| <u>GROUP</u> | <u>STBB G+A+M SCORE</u> | <u>AFQT PERCENTILE SCORE</u> |
|--------------|-----------------------------|----------------------------------|
| V | 105 & below | 0-9 |
| IV | 106-134 | 10-30 |
| III | 135-162 | 31-64 |
| II | 163-194 | 65-92 |
| I | 195 & above | 93-100 |

*Naval Recruiting District, San Francisco
Notice 1130 of 26 December 1972

APPENDIX C

3/1/73

ODDS FOR EFFECTIVENESS TABLE FOR USE WITH NAVY APPLICANTS FOR ENLISTMENT

Introduction

The Odds for Effectiveness (OFE) Table is for use as an aid in estimating the odds for naval effectiveness for prospective first term enlistees. An effective sailor is defined as one who completes his period of active duty obligation and is recommended for reenlistment. The odds for effectiveness scores are based upon the results of research conducted over a period of six years with a group of approximately 11,000 enlistees who entered the naval service in 1960. The Table was updated in 1968. The odds scores are the chances in 100 that an applicant, if enlisted, will render effective service. To determine the odds score for a particular applicant, start at the left-hand side of the table (in the column marked "Test Score") and follow the line running to the characteristics which describe his background. The score appearing in the last column is the applicant's odds for effectiveness. For example, if an applicant obtains an SBTB G + A + M score of 170, completed eleven years of schooling, and was expelled from school once, he would have 73 chances in 100 of rendering effective naval service. When an applicant attains a score enclosed in a parenthesis (58 or below), a reevaluation must be made and an OFE score waiver in writing be entered in the enlisted service record of any such applicants considered to be eligible for enlistment. It should be emphasized that the OFE Table is an aid for recruiters to rank applicants and select the best applicants for enlistment.

| Test Score | Years School Completed | Expuls. and/or Suspens | Arrests without Traffic Violations | OFE Score Categories | Odds for Effectiveness Score | Test Score | Years School Completed | Expuls. and/or Suspens | Arrests without Traffic Violations | OFE Score Categories | Odds for Effectiveness Score |
|---|------------------------|------------------------|------------------------------------|----------------------|------------------------------|---|------------------------|------------------------|------------------------------------|----------------------|------------------------------|
| SBTB G + A + M 163 & over OR ASVAB AFQT 65-100 | 12+ | None | | A | 93 | SBTB G + A + M 145-154 OR ASVAB AFQT 41-53 | 9-10 | 0-1 | None | H | 70 |
| | | One | | | 88 | | | Two+ | One | | (60) |
| | | Two+ | | | 79 | | | | Two+ | | (50) |
| | 10-11 | None | | B | 79 | | Two+ | None | | | (52) |
| | | One | | | 73 | | | One | | | (42) |
| | | Two+ | | | (58) | | | Two+ | | | (32) |
| | 9 & under | None | | | (59) | | 8 & under | 0-1 | None | | (56) |
| | | One | | | (52) | | | One | | | (46) |
| | | Two+ | | | (36) | | | Two+ | | | (36) |
| SBTB G + A + M 155-162 OR ASVAB AFQT 54-64 | 12+ | 0-1 | None | C | 90 | SBTB G + A + M 135-144 OR ASVAB AFQT 31-40 | 12+ | 0-1 | None | J | 86 |
| | | One | | | 85 | | | One | | | 79 |
| | | Two+ | | | 78 | | | Two+ | | | 71 |
| | 11 | 0-1 | None | D | 79 | | Two+ | None | | | 72 |
| | | One | | | 71 | | | One | | | (63) |
| | | Two+ | | | (62) | | | Two+ | | | (53) |
| | 9-10 | 0-1 | None | | (63) | | 11 | 0-1 | None | | 72 |
| | | One | | | (53) | | | One | | | (63) |
| | | Two+ | | | (43) | | | Two+ | | | (53) |
| SBTB G + A + M 145-154 OR ASVAB AFQT 41-53 | 9-10 | 0-1 | None | E | 72 | | 9-10 | 0-1 | None | K | (65) |
| | | One | | | (63) | | | One | | | (55) |
| | | Two+ | | | (53) | | | Two+ | | | (45) |
| | 8 & under | 0-1 | None | | (55) | | 8 & under | 0-1 | None | | (46) |
| | | One | | | (45) | | | One | | | (36) |
| | | Two+ | | | (35) | | | Two+ | | | (28) |
| SBTB G + A + M 134 & below OR ASVAB AFQT 30 & below | 12+ | 0-1 | None | F | (59) | SBTB G + A + M 134 & below OR ASVAB AFQT 30 & below | 12+ | 0-1 | None | L | (50) |
| | | One | | | (49) | | | One | | | (40) |
| | | Two+ | | | (39) | | | Two+ | | | (31) |
| | 11 | 0-1 | None | | (40) | | 11 | 0-1 | None | | (32) |
| | | One | | | (31) | | | One | | | (24) |
| | | Two+ | | | (23) | | | Two+ | | | (17) |
| SBTB G + A + M 145-154 OR ASVAB AFQT 41-53 | 12+ | 0-1 | None | G | 89 | | 12+ | None | | | 83 |
| | | One | | | 83 | | | 1 or 2 | | | 72 |
| | | Two+ | | | 76 | | | 3+ | | | (52) |
| | 11 | 0-1 | None | | 77 | | 11 | None | | | 71 |
| | | One | | | 69 | | | 1 or 2 | | | (58) |
| | | Two+ | | | (59) | | | 3+ | | | (36) |
| SBTB G + A + M 145-154 OR ASVAB AFQT 41-53 | 12+ | 0-1 | None | H | 77 | | 10 & under | None | | | (62) |
| | | One | | | 69 | | | 1 or 2 | | | (48) |
| | | Two+ | | | (59) | | | 3+ | | | (28) |
| | 11 | 0-1 | None | | (60) | | 11 | None | | | (62) |
| | | One | | | (50) | | | 1 or 2 | | | (48) |
| | | Two+ | | | (40) | | | 3+ | | | (28) |

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no significant change in quality has occurred during the first four months of the All-Volunteer policy. The implications are that 1) no reduction in the quality of new enlistees is a good indication that the Navy is maintaining a quality status quo, and 2) no increasing trend in quality might reflect the effectiveness of the Navy's program to enlist the highest caliber of recruit needed to form a future smaller, but more professional, naval force.

Thesis

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Quality comparison of
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